10.0% dry $CO_2 - 0.5\% = 9.5\%$ water

(1.00 − 0.095) (10.0% dry CO_2) = 9.05% wet CO_2

(4) Calculate the CVS dilution factor (DF) by:

$$DF = \frac{\text{Raw wet } CO_2 - \text{background } CO_2}{\text{Dilute wet } CO_2 - \text{background } CO_2}$$

(5) Convert the dilute wet-basis CO to dilute dry-basis values. An assumption that the percent of water by volume in the sample bag is 2 percent is acceptable. For example:

Dilute dry CO=(dilute wet CO)/(1.00–0.02)

(6) Calculate the raw dry-basis CO values by:

Raw dry CO=(DF) (dilute dry CO)

(c) If the raw exhaust sampling and analysis system specified in 40 CFR part 1065 is used, the percent for carbon monoxide on a dry basis shall be calculated using the procedure, as applicable, in 40 CFR 1065.650.

(Secs. 202, 203, 206, 207, 208, 301a, Clean Air Act, as amended; 42 U.S.C. 7521, 7522, 7525, 7541, 7542, 7601a)

[48 FR 52252, Nov. 16, 1983, as amended at 49 FR 48149, Dec. 10, 1984; 50 FR 10708, Mar. 15, 1985; 51 FR 24613, July 7, 1986; 70 FR 40441, July 13, 2005. Redesignated at 73 FR 37194, June 30, 2008]

Subpart Q—Regulations for Altitude Performance Adjustments for New and In-Use Motor Vehicles and Engines

AUTHORITY: Secs. 215 and 301, Clean Air Act, as amended (42 U.S.C. 7550 and 7601).

SOURCE: 45 FR 66956, Oct. 8, 1980, unless otherwise noted.

§ 86.1601 General applicability.

This subpart applies to manufacturers of motor vehicles and motor vehicle engines (hereafter referred to as vehicles) which are subject to the requirements of title II of the Clean Air Act. This subpart applies to the following vehicles:

(a) 1968 and later model year light-duty vehicles and light-duty trucks.

(b) 1970 and later model year heavy-duty engines built after December 31, 1969.

(c) 1978 and later model year motorcycles built after December 31, 1977.

(d) References in this subpart to engine families and emission control systems shall be deemed to apply to durability groups and test groups as applicable for manufacturers certifying new light-duty vehicles, light-duty trucks, and Otto-cycle complete heavy-duty vehicles under the provisions of subpart S of this part.

[45 FR 66956, Oct. 8, 1980, as amended at 64 FR 23923, May 4, 1999; 65 FR 59963, Oct. 6, 2000]

§ 86.1602 Definitions.

The definitions provided in subpart A also apply in this subpart. Additional definitions that apply in this subpart are as follow:

Altitude performance adjustments are adjustments or modifications made to vehicle, engine, or emission control functions in order to improve emission control performance at altitudes other than those for which the vehicles were designed.

Low altitude means any elevation less than or equal to 1,219 meters (4,000 feet).

Manufacturer parts are parts produced or sold by the manufacturer of the motor vehicle or motor vehicle engine.

§ 86.1603 General requirements.

(a) Manufacturers of vehicles specified in § 86.1601 shall submit to the Administrator for approval the following altitude performance adjustment instructions.

(1) Low-altitude adjustment instructions for vehicles certified to meet the appropriate high-altitude emission standards.

(2) High-altitude adjustment instructions for vehicles certified to meet the appropriate low-altitude emission standards.

(b) Manufacturers are not required to submit altitude adjustment instructions for vehicles equipped with systems or devices that compensate (in full or in part) the engine fuel metering system for air density changes. Manufacturers claiming this exemption must submit to the Administrator for approval a notification of the claim